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EXAMINER

AVELLINO, JOSEPH E

ART UNIT

PAPER NUMBER

2143

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/852,527

Applicant(s)

RIGORI ET AL.

Examiner

Joseph E. Avellino

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2006 8/17/05
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

Claims **1-14 and 16-35** remain pending in this application. The Office acknowledges the addition of claims 25-35.

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 17, 2005 has been entered.

#### **Claim Rejections - 35 USC § 103**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1-3, 8-10, 16-20, and 25-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (Dynamic-Agents for Dynamic Service Provisioning) hereinafter referenced to as Chen in view of Jacobson et al. (U.S. Patent Number 5,440,744) hereinafter referenced to as Jacobson in view of Bhatia et al. (U.S. Patent Number 6,029,203) hereinafter referenced to as Bhatia.

Regarding claim 1, 8, and 16-18, Chen taught an infrastructure including service gateways (platforms) being operable to hold (or support) at least one service module. (dynamic-agent) for providing a corresponding service (fig. 4, page 4 paragraph 7 and

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page 5 paragraphs 3-5), wherein the service gateway comprises a control mechanism (page 5 paragraph 14 and page 6 paragraph 1) that is operable in response to a request for a service provided by a service module not present at the service gateway, to send one or more messages to an external source (page 5 paragraph 14 and page 6 paragraph 1)

Chen did not expressly teach details regarding one or more iterations until a response from the external service identifies a service module within the gateway that is capable of providing the first service (conditional loop).

Jacobson taught a well known in the art technique of a conditional loop and provided details regarding one or more iterations until a response from the external service identifies information including a service module held by the gateway that enables resolution of the absent service module(s) (column 28 lines 44-52).

Neither Chen nor Jacobson **explicitly** taught a service gateway for connecting at least one local client to an external network. However, Chen taught inter-domain-agent messaging (see page 8 paragraph 3) which motivate the exploration of the art of network communications (fig. 4); this teaching are broadly found in Jacobson, who further teaches communication with different nodes until a method server is started (Jacobson: column 28 lines 44-52).

Bhatia taught a service gateway for connecting at least one local client to an external network (Abstract, Fig.1 and 2a-c)

Chen taught that the execution of dynamic-agents agendas including conditional tasks which motivates the exploration of the art using such sort of conditional programming techniques (page 3 paragraph 13). Chen also taught motivation to implement the disclosed infrastructure in networked environments in different ways including: a) the mobility feature of the Dynamic-Agent Architecture that taught how an agent or an agent-factory can launch or cloned at a local or remote site (page 4 paragraph 4), b) the Resource-Broker implementation of a dynamic-agent which in many cases can be a coordinator registering socket addresses resolvable to TCP/IP addresses which is a protocol commonly used in the art to span wide area networks; the resource-broker also maps each program to its address, e.g. URL (Universal Resource Locator) which is also commonly used in the art to describe an address resolvable to a TCP/IP address (page 7 paragraph 6), c) an exemplary explanation of Extended Dynamic Service Provisioning with a product-manager dynamic-agent communicating with the Web Server, this communication typically use TCP/IP (section 5).

It would have been obvious to one of ordinary skill in the art working with Chen's disclosure at the time of the invention was made to modify the teachings of Chen with the teachings of Jacobson and Bhatia in order to send messages to an external source (Bhatia: Abstract, Fig.1 and 2a-c; and Chen: page 8 paragraph 3) and repeat such

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operation until a further condition occurs (Jacobson: column 28 lines 44-52), thus improving Chen's disclosure with a cyclic execution. Chen provided sufficient motivation and suggestions to explore the art of communicating with external sources (fig. 4 and page 8 paragraph 3) Chen also taught motivation to implement the disclosed infrastructure in networked environments in different ways including: a) the mobility feature of the Dynamic-Agent Architecture that taught how an agent or an agent-factory can launch or cloned at a local or remote site (page 4 paragraph 4), b) the Resource-Broker implementation of a dynamic-agent which in many cases can be a coordinator registering socket addresses resolvable to TCP/IP addresses which is a protocol commonly used in the art to span wide area networks; the resource-broker also maps each program to its address, e.g. URL (Universal Resource Locator) which is also commonly used in the art to describe an address resolvable to a TCP/IP address (page 7 paragraph 6), c) an exemplary explanation of Extended Dynamic Service Provisioning with a product-manager dynamic-agent communicating with the Web Server, this communication typically use TCP/IP (section 5). The combination of Chen with Bhatia and Jacobson would have resulted in a systems that explicitly teaches a control mechanism configured to **responsive to a request** (See the last two lines of page 5 and the first three lines in page 6); Chen messages are considered a request **for a first service**. Chen also taught a control mechanism configured to **respond to a request for a first service provided by a service module not present at the service gateway by sending one or more messages to an external source** until (Jacobson: column 28 lines 44-52) a response from the external source identifies a service module

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within the gateway that is capable of providing the first service (e.g. a problem-solving program, see pages 6 line 5) **provided by a service module** (dynamic-agents are interpreted by Examiner as service modules) **not present at the service gateway** (platforms are interpreted by Examiner as service gateways, see Fig. 4) **by sending one or more messages to an external source** (Chen's (fig. 4, page 8 paragraph 3, sections 3.2 and 3.3; and page 4 paragraph 6) agents make request to agents in other ("external") platforms, which is interpreted by Examiner as "external source") until a response from the external source identifies a service module within the gateway that is capable of providing the first service.

Chen in view of Jacobsen in view of Bhatia further disclose using the response identifies a proposed service and that the input stream comprises an encoded version of the first service and the proposed service is a service required to decode the encoded version of the first service. Chen, Jacobsen and Bhatia discuss the use of common networking protocols (i.e. HTTP, TCP/IP, etc.) which are well known to encode data into packets which must be decoded by the receiver to be used by the applications. This is well known in the art as the OSI model (i.e. the lower layer strips off the header and reforms the packets together and passes them up to the higher layer level). It is also known in the art that these protocols identify what the protocol is so that the receiver is able to decode them (i.e. the first line in an HTTP packet is "HTTP/1.1 202 OK" etc. which identifies the version of HTTP used to allow the recipient to understand the protocol). By this rationale, Chen in view of Jacobsen in view of Bhatia inherently

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disclose the response identifies a proposed service (i.e. protocol type, etc.) to decode the input stream.

Regarding claim 2, 9 and 19, Chen taught a record of service modules held by the gateway including a reference to the service module (page 4 paragraph 7), the control mechanism being operable: to react to a request identifying a first service module by accessing the record to determine if the first service module is held by the service gateway and: using the associated pointer included on the record to cause the first service module to provide the corresponding service if the first service module is held by the service gateway; and requesting support from an external source by sending a message to the external source that includes an identification of the first service module if the first service module is not held by the service gateway; and to react to a response from the external source identifying a second service module by accessing the record to identify if the second service module is held by the service gateway using the associated pointer to cause the second service module to provide the corresponding service if the second service module is held by the service gateway; and requesting support from an external source by sending a message to the external source including the identity of the second service module if the second service module is not held by the service gateway (page 4 paragraph 7-8, page 5 paragraph 14, page 6 paragraph 1 and sections 4 and 4.1).

Regarding claim 3, 10 and 20, Chen taught the control mechanism is operable to:



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react to a response from the external source that identifies a further service module by accessing the record to identify if the further service module is held by the service gateway and: using the associated pointer to cause the further service module to provide the corresponding service if the further service module is held by the service gateway; and requesting support from an external source by sending a message to the external source that includes the identification of the further service module if the further service module is not held by the service gateway (page 4 paragraph 7, page 5 paragraph 14, page 6 paragraph 1).

1. Claims 25-35 are rejected for similar reasons as stated above.
2. Claims 4-7, 11-14 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (Dynamic-Agents for Dynamic Service Provisioning) hereinafter referenced to as Chen in view of Jacobson et al. (U.S. Patent Number 5,440,744) hereinafter referenced to as Jacobson and further in view of Bhatia et al. (U.S. Patent Number 6,029,203) hereinafter referenced to as Bhatia and further in view of Marsh et al. (U.S. Patent Number 5,519,381) hereinafter referenced to as Marsh.

Regarding claims 4, 11 and 21, interpreted to be dependent on claim 1, 8 and 18 respectively, neither Chen, Jacobson, nor Bhatia explicitly taught the control mechanism operable to compare successive responses from an external source to identify response duplication indicative of a recursive error.

Marsh taught the control mechanism operable to compare successive responses from an external source to identify response duplication (column 2 lines 21-24)

Chen taught a request-broker useful for redundant server (page 7 paragraph 11), flexible communication features (page 5 paragraphs 7-9) and automatic management of communications issues (page 6 paragraph 1) that suggest and motivates the exploration and application of the art elements to detect and manage communication errors.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to further combine the teachings of Chen modified by the teachings of Jacobson and Bhatia with the teachings of Marsh, motivated by Chen to explore the art of automatic management of communication issues (Chen: page 6 paragraph 1). The combination of Chen modified with Jacobson and Bhatia would have resulted improved with the teachings of Marsh by adding automatic management of communications issues that specifically compare responses from an external source to identify response duplication (Marsh; column 2 lines 21-24).

Regarding claims 5, 12 and 22, Chen further taught a control mechanism reacting to the identification of a service module and from an external source by

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supplying data to the module now held by the service gateway, for processing by the module (see Chen page 7 paragraph 6, in particular line 9).

Regarding claims 6-7, 13-14 and 23-24, Chen further taught requesting services from a service provider and the use of operators (Fig. 3, page 2 paragraph 8 and page 7 paragraphs 7-11).

Claims 25-35 are rejected for similar reasons as stated above.

3. Claims 1-3, 8-10 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (Dynamic-Agents for Dynamic Service Provisioning) hereinafter referenced to as Chen in view of Howard et al. (U.S. Patent Number 6,601,086) hereinafter referenced to as Howard.

Regarding claim 1, 8 and 16-18, Chen taught a service gateway operable for connecting at least one local client to an external network and hold at least one service module for providing a corresponding service, wherein the service gateway includes a control mechanism configured to respond to a request for a first service provided by a service module not present at the service gateway by sending one or more messages to an external source to identify a service module within the gateway that is capable of providing the first service after downloading the program that provides the service and

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executing such program (page 4 paragraph 7 and 8, fig. 4, page 4 paragraph 7 and page 5 paragraphs 3-5, page 5 paragraph 14 and page 6 paragraph 1).

Chen did not expressly teach details regarding one or more iterations until a response from the external service identifies a service module within the gateway that is capable of providing the first service (conditional loop).

Howard, in the same field of endeavor related to service provisioning, taught a service provider wherein, as defined in claims **1, 2 and 12**, the service provider communicates with the information providers via the computer network and provides data to the plurality of embedded devices such that the embedded devices do not communicate directly with the providers and further comprising an information collection manager for searching the computer network and accessing and obtaining updated service information from the computer network, wherein the provider updates computer program code on an embedded device by obtaining updated computer program code via the computer network and by notifying the embedded device of an available update and by further sending the updated computer program code to the embedded device (fig. 7 and 9-11, column 6 lines 18-36, column 9 line 56 to column 11 line 18 and column 16 lines 3-65). In column 16 lines 54-65, Howard taught an arrangement wherein requestors ask a service provider to monitor and/or control one or more embedded devices and the service provider may obtain data or software updates that may be needed by the embedded devices, all of such functions interpreted by Examiner as services provided by the service provider to requestors and embedded devices.

**More specifically Howard taught a loop in a data communication process (fig. 12 and column 16 line 54 to column 17 line 59).**

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Chen with the teachings of Howard to add the functionality of querying external source in a cyclic manner (Howard: fig. 12 and column 16 line 54 to column 17 line 59) for identifying further services to Chen's dynamic agent infrastructure thus expanding the possible amount of services provided. Chen taught sufficiently interoperability functionalities of dynamic-agents to motivate anyone with ordinary skill in the art to use such functionality to identify additional applications such as searching for additional classes (page 3 paragraph 13, page 4 paragraphs 3 and 4, page 5 paragraph 14, page 6 paragraph 1 and page 7 paragraph 1). Howard also taught motivations to obtain updates from external sources to provided additional information that may be useful for the embedded device or the service provider (column 6 lines 18-36). Therefore, the combination teaches a control mechanism configured to **responsive to a request** (Chen: last two lines of page 5 and the first three lines in page 6); Chen messages are considered a request **for a first service**. Chen also taught a control mechanism configured to **respond to a request for a first service provided by a service module not present at the service gateway by sending one or more messages to an external source** until (Howard: "Loop in data communication" described in fig. 12) a response from the external source identifies a service module within the gateway that is capable of providing the first service (e.g. a

problem-solving program, see pages 6 line 5) **provided by a service module** (dynamic-agents are interpreted by Examiner as service modules) **not present at the service gateway** (platforms are interpreted by Examiner as service gateways, see Fig. 4) **by sending one or more messages to an external source** (Chen's agents make request to agents in other ("external") platforms, which is interpreted by Examiner as "external source") until (**Howard**: "Loop in data communication" described in fig. 12 and column 16 line 54 to column 17 line 59) a response from the external source identifies a service module within the gateway that is capable of providing the first service (Chen: page 6 paragraph 1, fig. 4, page 8 paragraph 3, sections 3.2, 3.3 and 5; and page 4 paragraph 6).

Regarding claim 2, 9 and 19, Chen further taught a record of service modules held by the gateway including a reference to the service module (page 4 paragraph 7), the control mechanism being operable: to react to a request identifying a first service module by accessing the record to determine if the first service module is held by the service gateway and: using the associated pointer included on the record ("...address-book, recording the addresses..." [page 4 paragraph 7] and capabilities details provided on page 9 paragraph 1) to cause the first service module to provide the corresponding service if the first service module is held by the service gateway (page 4 paragraph 7) [Examiner interprets that Chen agents would only contact the coordinator if the request can not be satisfied with the agent's known self capabilities or the agent's address-book]; and requesting support from an external source by sending a message to the

external source that includes an identification of the first service module if the first service module is not held by the service gateway (page 5 [last 10 lines, page 6 [first 9 lines], section 4 ["Cooperation among Dynamic-Agents] and page 8 paragraph 3); and to react to a response from the external source identifying a second service module (second agent) by accessing the record (address-book updated with newly received information or updated known self capabilities or consulting the coordinator) to identify if the second service module is held by the service gateway using the associated pointer (obtained address) to cause the second service module to provide the corresponding service if the second service module is held by the service gateway (See page 5 paragraph 2, **"An action running on a dynamic-agent, A, can send messages through A to other dynamic-agents to enable actions over there or use either APIs or messages to start other actions locally on A"**); and requesting support from an external source by sending a message to the external source including the identity Of the second service module if the second service module is not held by the service gateway (page 4 paragraph 7-8, page 5 paragraph 14, page 6 paragraph 1 and sections 4 and 4.1). Furthermore,

- Chen describes the coordinator service and teaches that each agent keeps an address book (a record) of the addresses of agents known to it (See page 4 paragraph 8).
- Further, in page 6 (section 3.3) Chen describes Dynamic Service Provisioning by providing an example that requires two workflow servers PM and WLM; each of which is a dynamic-agent.

- Further in page 9 paragraph 1, Chen teaches that product-managers and plant managers can carry two servers (PM and WLM) and; that capabilities of such managers are determined by the loaded programs.
- Chen also described in figure 4 an Agents J and M (managers) embodied in platforms (service gateways).

Having said that; it is clear that Chen disclosed a environment wherein two or more agents can co-exist in one single "platform" (service gateway), in that case one agent can determine (using its address book as a record or with the basic intelligence of its capabilities) if a service is available within itself or in the co-existing agent (second service module); and later accessing the coordinator if the service is not found within the platform. Therefore accessing a record (messaging the coordinator) if it is determined that a service module (agent containing the service) is not held by the service gateway (platform).

Regarding claim 3, 10 and 20, Chen further taught the control mechanism is operable to: react to a response from the external source that identifies a further service module by accessing the record to identify if the further service module is held by the service gateway and; using the associated pointer included in the record to cause the further service module to provide the corresponding service if the further service module is held by the service gateway (platform); and requesting support from an external source by sending a message to the external source that includes the identification of



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the further service module if the further service module is not held by the service gateway (page 4 paragraph 7, page 5 paragraph 14, page 6 paragraph 1).

### **Conclusion**

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Again, it is the Examiner's position that Applicant has not yet submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art. As it is Applicant's right to continue to claim as broadly as possible their invention. It is also the Examiner's right to continue to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique. Thus, it is clear that Applicant must submit amendments to the claims in order to distinguish over the prior art use in the rejection that discloses different features of Applicant's claim invention.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

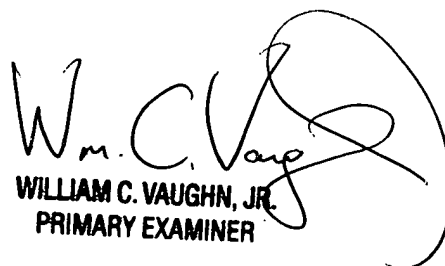
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JEA

November 17, 2005



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PRIMARY EXAMINER